# Israel Journal of B O T A N Y

Formerly: Bulletin of the Research Council of Israel, Section D

INDEX TO VOLUME 16, 1967

WHYERSHY OF HAWAII LIBRARY

published by
The Weizmann Science Press of Israel

National Council for Research and Development

## CONTENTS INDEX

## Vol. 16, No. 1, 1967

Fusarium equiseti (Cda.) Sacc. in Israel	A.Z. Joffe and J. Palti	1
Some aspects of stomatal behavior, as observed by means of porometer	f an improved pressure-drop  D. Shimshi	19
A Jurassic florule from Sinai	J. Lorch	29
Inhibition of apple catechol oxidase by a galactose oxida:  dendroides  E. Harel, A.M. Ma	se inhibitor from Dactylium nyer, Z. Markus and G. Avigad	38
NOTE		
The use of ethionine for selective isolation of <i>Prymnesium parv</i> Kinneret)	wum from Lake Tiberias (Lake M. Rahat and Inka Dor	42
LETTERS TO THE EDITOR		
In support of the critique on the hydrature concept	E. Shmueli and O.P. Cohen	45
Critique of the hydrature concept by Shmueli and Cohen	H. Walter	48
PROCEEDINGS OF THE ISRAEL BOTANICAL SOCIETY		49
Vol. 16, No. 2, 1967		
voi. 10, No. 2, 1907		
Diploid and tetraploid Hordeum bulbosum L.	J. Katznelson and D. Zohary	57
Chlorophyllum molybdites (Meyer ex Fr.) Mass. in Israel	Zehara Avizohar-Hershenzon	63
On the pollination of Zizyphus spina-christi (L.) Willd, in Israel	J. Galil and M. Zeroni	71
Micro-environmental factors and species interrelationships in the foothill region of the Judean Hills	three batha associations in M. Litav	79
NOTES		
A New Origanum from Israel: Origanum ramonense sp.n.	A. Danin	101

Y. Gutter and Rivka Barkai-Golan

105

Observations on some fungi and other micro-organisms preserved under mineral oil for

15 years

## Vol. 16, No. 3, 1967

The effect of chlorine salinity on growth of bean leaves in thickness and in area  A. Meiri and Alexandra Poljakoff-Mayber	115
In sales and Incommunity Interpretation	113
Actinomycin D: Its inhibitory effect on the development of epidermal hairs on seedlings of Sinapis alba L.  Hava Stein	124
A Jurassic flora of Makhtesh Ramon, Israel  J. Lorch	131
PROCEEDINGS OF THE 17TH MEETING OF THE GENETIC SOCIETY OF ISRAEL, 1967	157
Vol. 16, No. 4, 1967	
Gibberellin and hull controlled inhibition of germination in Aegilops kotschyi Boiss.  Judith Wurzburger and Y. Leshem	181
	**
The gas diffusion porometer technique and its application to the measurement of leaf mesophyll resistance  J. Gale, Alexandra Poljakoff-Mayber and I. Kahane	187
Resistance to gas flow through the leaf and its significance to measurements made with viscous flow and diffusion porometers  J. Gale and Alexandra Poljakoff-Mayber	205
Seed dispersal and germination in Blepharis persica (Burm.) Kuntze  Y. Gutterman, A. Witztum and M. Evenari	213
BOOK REVIEW	
Salinity and aridity: New approaches to old problems  J.I.G.	235

## DATES OF ISSUE

Number 1, November, 1967 Number 3, June, 1968

Number 2, April, 1968 Number 4, September, 1968

## AUTHOR INDEX

INDEX

A	Gutter, Y., 105	N
	Gutterman, Y., 213	
Aschner, M., 54	Guttman, L., 159	Naftali, G., 159
Ashri, A., 160	Guttman, Ruth, 159	
Avigad, G., 38	Guttman, R., 159	0
Avizohar-Hershenzon, Zehara, 63		
	22	Oppenheimer, H.R., 50
В	н	
В		P
District In Pinks 105	Hadas, S., 54	
Barkai-Golan, Rivka, 105	Harel, E., 38	Palti, J., 1
Ben-Zioni, Aliza, 51		Pinthus, M.J., 160
Berdicevsky, Israela, 54	The state of the s	Poljakoff-Mayber, Alexandra, 115, 187,
	•	205
С	Itai, C., 51	Porath, D., 53
Cohen, O.P., 45		R
	J	
D		Rahat, M., 42, 54
D	Joffe, A.Z., 1	
Danin, A., 53, 101		S
Dor, Inka, 42, 54		
Doi, iiika, 42, 54	K	Samish, R.M., 52
	wiw.com.closel	Shimshi, D., 19
E	Kahane, I., 187	Shmueli, E., 45
	Katznelson, J., 57	Stanhill, G., 50
Ephrat, J., 161	Koller, D., 50	
Erez, A., 52		Stein, Hava, 124, 157
Eshed, N., 162	L	
Evenari, M., 213	angle balls broad and 2	v
	Lachover, D., 161	
F	Lapushner, D., 159	Vaadia, Y., 51
	Lavee, S., 52	
Fahn, A., 53	Leiblich, I., 159	W
Frankel, R., 158, 159	Leshem, Y., 181	
	Litav, M., 79	Walter, H., 48
G	Lorch, J., 29, 131	Weinmann, Dvora, 158
		Witztum, A., 213
Gale, J., 187, 205, 235		Wurzburger, Judith, 181
Galil, J., 71	M	
Galston, A.W., 52		
Galun, E., 53, 158	Markus, Z., 38	Z
Gefen, M., 53	Mayer, A.M., 38	
Goren, R., 52	Meiri, A., 115	Zeroni, M., 71
Grama, A., 162	Moreshet, S., 50	Zohary, D., 57
		and the second s

## SUBJECT INDEX

A

Acanthoideae, capsule dehiscence in, 213
Acanthus,

- edulis Forssk., 214
- sp., capsule explosion in, 213

Actinomycete, 105

Actinomycin D, inhibition by, of

- development of epidermal hairs on seedlings of Sinapis alba L., 124
- incorporation of 14C-sucrose (phytochrome controlled) into buds of etiolated peas, 52

Aegilops kotschyi Boiss.,

 germination in, promoted by gibberellin and inhibited by the hulls, 181

Agaricus

- glacioui Berk., 63
- guadalupensis Pat., 64
- molybdites Meyer ex Fr., 64
- morgani Peck, 64

Age of the Jurassic flora of Makhtesh Ramon, a report on Middle Bajocian and Bathonian fauna overlying the flora, 154

Ajuga chia (Poir.) Schreb., 83

Alethopteris branneri (White) Jongmans et Gothan, 138
Alkanna strigosa Boiss., 85 et seq.

Allium

- cepa L., Fusarium equiseti isolated from, 9 et seq.
- hirsutum Zucc., 83
- stamineum Boiss., 84

Alternaria citri Ellis et Pierce, 105

Althaea setosa Boiss., 85

Amino acid and kinetin incorporation in tobacco leaf discs which had experienced salinity and water stress, 51

Amygdalus korschinskii (Hand.-Mazz.) Bornm., 102 Analysis

- comparative, of growth and grain yield com-
- genetic, of quantitative traits in tomato, 159

Anchusa strigosa Labill., 83 et seq.

Andromonoecious plant, Zizyphus spina-christi (L.) Willd., 74

Andropogon

- distachyus L., 83 et seq.
- hirtus L. (= Hyparrhenia hirta L.), 88

Anemone coronaria L., 83

Apple, see Malus sylvestris Mill.

Arachis hypogaea L.

- behavior of stomata in, 19
- var. Dixie Anak, dominant mutant induced in, 160
- var. Divie Anak, occurrence of Fusarium equiseti on kernels of, 13

Argon, radioactive, a new direct method of measuring stomatal diffusion resistance by means of, 50

Aridity and salinity (Book review), 235

Arisarum vulgare Targ.-Tozz., 83 et seq.

Aristida caerulescens Desf., 84

Artedia squamata L., 85

Aspergillus

- flavipes (Bain. et Sart.) Thom. et Church, 105
- nidulans (Eidam) Winter, 105
- niger v. Tiegh., 105
- proliferans G. Smith, 105
- versicolor (Vuill) Tiraboschi, 105

Asphodelus microcarpus Viv., 83 et seq.

Aspideae, 142

Aspidites Harris, 142

- beckeri Lorch, sp. nov., 142

Atractylis comosa Sieb., 84

Avena sterilis L., 82 et seq., 113

Avocado, see Persea americana

B

Bacillus subtilis Cohn, 105

Ballota undulata (Fresen.) Benth., 83 et seq.

Ballotetalia, 83

Banana, see Musa sp.

Barley, see Hordeum vulgare

Batha, three associations in the foothill region of the Judean Hills, micro-environmental factors and species interrelationships in 79

Bean(s), see Phaseolus vulgaris

Behaviour

- sequences in mice, inheritance of, 159
- stomatal, aspects of, as observed by means of an improved pressure-drop porometer, 19

Bellevalia flexuosa Boiss., 83

Bennettitales, 146

Berseem clover, see Trifolium alexandrinum

Biology of molds which develop on seemingly dry surfaces,

54

Biota orientalis Endl., 50

Blepharis A.L. Juss., 214

- edulis (Forssk.) Pers., 214
- persica (Burm.) Kuntze
  - seed dispersal and germination in, 213
  - synonyms 214 (footnote)

"Blister' formation in dates, 53

Brachyphyllum Brongniart, 36

- cf. mammillare Brongniart, 152
- obesum Brongniart, 32
- sp., 32, 36

Breeding brewing barley, a new formula for extract prediction as a tool in, 161

Briza maxima L., 83

#### Bud(s)

- floral, of Cucumis sativus and C. melo, in vitro culture of, 53
- pea, etiolated, phytochrome-controlled incorporation of 14C-sucrose into, and its inhibition by gibberellic acid and actinomycin D, 52
- peach, the effect of light and temperature on opening,
   52.

Bulbs (basal internodes) of some diploid and tetrapoid

Hordeum bulbosum L., 109

C

Calophanes sp., anatomy of capsule, 213

Capsule dehiscence by explosion in *Blepharis persica* (Burm.) Kuntze and other Acanthaceae, 213

Carlina involucrata Poir., 83 et seq.

Carnation, see Dianthus sp.

Catechol oxidase in apples, inhibition of, by a galactose oxidase inhibitor from *Dactylium dendroides*, 38

#### Centaurea

- aegyptiaca L., 102
- damascena Boiss., 102
- eryngioides Lam., 102

Chaetosciadium trichospermum (L.) Boiss., 83 et seq.

Chlorella vulgaris Beyernick in the culture from which Prymnesium parvum was isolated, 43

Chloride fluxes in bean roots in relation to free space, 51 Chlorine salinity, the effect of, on growth of bean leaves in thickness and in area, 115

Chlorophyceae, 43

#### Chlorophyllum

- esculentum Mass., 64
- molybdites (Meyer ex Fr.) Mass. in Israel, 63
  - cortical layer, cheilocystidia, basidia, clamp connections of 112
  - fairy ring and fruit-bodies, 111
  - var. marginatum Smith, 64
- morgani (Peck) Graff, 64

Chromosomal and cytoplasmic (alternative) hereditary elements in male sterile *Petunia*, 158

Chroococcus minutus (Kütz.) Naeg., 43

Chrysophyceae, 42 et seq.

#### Cistus

- salviifolius L., 83
- villosus L., 83 et seq.

Citrullus vulgaris Schrad., Fusarium equiseti isolated from, and inoculated on, 9 et seq.

#### Citrus

- aurantiifolia Swingle, limonium Swingle, Fusarium equiseti isolated from, 13
- sp. pathogens, 105

Cladophlebis Brongniart, 144

- stricta Carpentier, 144

Colletotrichum gloeosporioides Penz., 105

Coniferales, 151

Conifers, drought resistance of, 50

#### Control by

- gibberellin and hulls, of germination in Aegilops kotschyi Boiss., 181
- phytochrome, of incorporation of 14C-sucrose into buds of etiolated peas, 52

Convolvulus dorycnium L., 84 et seq.

## Coronilla

- cretica L., 56
- parviflora Moench, 56
  - var. parviflora, 56
  - var. pauciflora Plitm., 56
- rostrata Boiss. et Sprun., 56
  - var. pauciflora (Plitm.) Fertig, 56
  - var. rostrata, 56

Cotton, see Gossypium hirsutum

Critique of the hydrature concept by Shmueli and Cohen,

- in support of, 45

Crosses among several barley varieties, inheritance of resistance to race 11 of powdery mildew (Erysiphe graminis) in, 162

Crucianella macrostachys Boiss., 83

Crupina crupinastrum (Moris) Vis., 83 et seq.

Cucumber, see Cucumis sativus

### Cucumis

- melo L. and sativus L.
  - Fusarium equiseti isolated from and inoculated on, 9 et seq.
  - in vitro culture of floral buds of, 53

Culture, in vitro, of floral buds of Cucumis sativus and C. melo, 53

Cupressinocladus Seward emend. Chaloner et Lorch, 36 — sp., 36

Cupressus glabra Sudv., 50

Cyanophyceae, 43

Cyclamen persicum Mill., 83 et seq.

Cymatopleura elliptica (Breb.) W. Smith, 43

Cynocrambe prostrata Gaertn., 91

Cytoplasmic and chromosomal (alternative) hereditary elements in male sterile *Petunia*, 158

#### D

Dactylis glomerata L., 83 et seq.

Dactylium dendroides (Bull.) Fr., inhibition of apple catechol oxidase by a galactose oxidase inhibitor from, 38

Dahlia sp., Fusarium equiseti isolated from, 13

Dates, "blister" formation in, 53

Dehiscence of capsule by explosion in *Blepharis persica* (Burm.) Kuntze and other Acanthaceae, 213

Development of epidermal hairs on seedlings of Sinapis alba L., inhibitory effect of actinomycin D on, 124

#### Dianthus

- sp., Fusarium equiseti isolated from, 9 et seq.
- strictus Banks et Sol., 83 et seq.

Diatomeae, 43

#### Diffusion

- gas, porometers, 187, 205
- stomatal, a new method of measuring resistance to, 50

Diplodia natalensis P.E., 105

Diploid and tetraploid Hordeum bulbosum L., 57

Dispersal, seed, and germination in Blepharis persica (Burm.) Kuntze, 213

Drought resistance of conifers, 50

Dry (seemingly) surfaces, the biology of molds which develop on, 54

E

#### Echinops

- adenocaulos Boiss., 83 et seq.
- polyceras Boiss., 102

Echium judaicum Lacaita, 85

Elatocladus Halle, 151

- ramonensis Lorch sp. nov., 151

#### Ephedra

- alte C.A. Mey., 84 et seq.
- campylopoda C.A. Mey., 83

Epidermal hairs on seedlings of Sinapis alba L., inhibitory effect of actinomycin D on the development of, 124

Equisetales, 132

Equisetum L., 132

- columnare Brongniart, 132

Erysiphe graminis DC. (powdery mildew), inheritance of resistance to race 11 of, in crosses among several barley varieties, 162

Ethionine, the use of, for selective isolation of *Prymnesium* paryum from Lake Tiberias, 42

Etiolated peas, control by phytochrome of 14C-sucrose incorporation into buds of, and its inhibition by gibberellic acid and actinomycin D, 52

Extract prediction, a new formula for, based on nitrogen content and hull percentage of barley grains, as a tool in breeding brewing barley, 161

#### F

Fauna, Middle Bajocian and Bathonian, overlying the Jurassic flora of Makhtesh Ramon, 154

Fern(s), fossil, 30, 132

- indusia of sori (possibly), 36
- leaves, involute, 145
- unclassified, 36, 140

Feruletum communis, 86

Filicales, 30, 134

Flora (Florule)

- Jurassic
  - from Sinai (massif of Jebel Maghara, Northern Sinai), 29

- of Makhtesh Ramon, Israel, 131
- a report on the age of, on the basis of Middle Bajocian and Bathonian fauna overlying the flora, 154
- of Lake Kinneret (Lake Tiberias) hidden, 54

Fluxes, chloride, in bean roots in relation to free space, 51

Foeniculum vulgare Mill., 84

Foothill region of the Judean Hills, micro-environmental factors and species interrelationships in three batha associations in, 79

Formula, new, for extract prediction, based on nitrogen content and hull percentage of barley grains, as a tool in breeding brewing barley, 161

#### Fumana

- arabica L., 83
- thymifolia (L.) Spach, 83 et seq.

Fungi preserved under mineral oil for 15 years, observations on some, 105

#### Fusarium

- avenaceum (Fr.) Sacc., 6
- culmorum (W.G. Sm.) Sacc., 6 et seq.
- equiseti (Cda.) Sacc. in Israel, 1
  - var. bullatum (Sherb.) Wr., 2
- moniliforme Sheld, emend. Snyder et Hansen, 14 et seq.
- oxysporum Schlecht, emend. Snyder et Hansen, 14 et seg.
- roseum Lk. emend. Snyder et Hansen, 2 et seq.
- scirpi Lamb et Fautr., 2
- semitectum Berk, et Rav, 2 et seq.
- soloni (Mart.) App. et Wr. emend. Snyder et Hansen, 6 et seq.
- sp., 105

G

Gagea commutata C. Koch, 83

Galactose oxidase inhibitor from Dactylium dendroides, 38
Gas diffusion porometer, measurements with, of leaf
mesophyll and stomatal resistance to gas and water
vapour flow through the leaf, 187, 205

Genetic analysis of a number of quantitative traits in tomato varieties, 159

Genus (genera), new, fossil

- Piazopteris Lorch, 134
- Sellingia Lorch, 138

Geotrichum candidum Lk. ex Pers., 105

#### Germination in

- Aegilops kotschyi Boiss., promoted by gibberellin and inhibited by the bulls, 181
- Blepharis persica (Burm.) Kuntze, and seed dispersal,
   213

Geropogon glabrum L., 83

Gibberellin (gibberellic acid)

 inhibition by, of phytochrome-controlled <sup>14</sup>C-sucrose incorporation into buds of etiolated peas, 52  promotion by, of germination in Aegilops kotschyl Boiss., 181

Gossypium hirsutum L.

- seeds, Fusarium eauiseti isolated from, 11
- stomatal behaviour of, 19

Groundnuts, see Arachis hypogaea

#### Growth

- of bean leaves in thickness and area, the effect of chlorine salinity on, 115
- of wheat, winter and spring, comparative analysis of, 160

Gundelia tournefortii L., 83

Gymnospermeae 36, 146

#### H

Hairs, epidermal, on seedlings of Sinapis alba L., inhibitory effect of actinomycin D on the development of, 124 Haplophyllum poorei C.C. Townsend, 102

Helichrysum sanguineum (L.) Kostel, 83

Heliotropium rotundifolium Sieb. ex Lehm., 84 et seq.

Helminthosporium sp., 14 et seq.

Hereditary elements, alternative cytoplasmic and chromosomal, in male sterile *Petunia*, 158

#### Hordeum

- bogdanii Wilem., non-bulbous perennial diploid, 61
- bulbosum L.
  - diploid and tetraploid, 57
  - in batha associations, 82 et seq.
- nevskianum Bowden, non-bulbous perennial diploid,
   62
- spontaneum C. Koch in batha associations, 82 et seq.
- violacum Boiss, and Hohen., non-bulbous perennial diploid, 62
- vu!gare L.,
  - breeding of brewing, a new formula for extract prediction as a tool in, 161
  - inheritance of resistance to powdery mildew (Erysiphe graminis) in, 162

#### Hull(s)

- inhibition by, of germination in Aegitops kotschyi
   Boiss., 181
- percentage in barley grains applied for extract prediction and used as a tool in breeding brewing barley, 161

Hybrid combinations, 730, between 140 tomato varieties, a genetic analysis of a number of quantitative traits in, 159

Hydrature concept, critique of, by Shmueli and Cohen, 48
— in support of, 45

Hymenomycetes, 63

Hyparrhenia hirta (L.) Stapf., 84 et seq., 113

Hyparrhenietum hirtae, 84 et seq.

Incertase sedis (possibly indusia of fern sori), 36 Incorporation of

- kinetin and amino acid into tobacco leaf discs which had experienced salinity and water stress, 51
- 14C-sucrose (phytochrome-controlled) into buds of etiolated peas and its inhibition by gibberellic acid and actinomycin D, 52

#### Inheritance of

- behaviour sequences in mice, 159
- resistance to race 11 of powdery mildew (Exysiphe graminis) in crosses among several barley varieties, 162
- seed coat colour in Ricinus communis, 157

#### Inhibition of

- apple catechol oxidase by a galactose oxidase inhibitor from Dactylium dendroides, 38
- development of epidermal hairs on seedlings of Sinapis alba L. by actinomycin D, 124
- germination in Aegilops kotschyi Boiss. by hulls, 181
- incorporation of 14C sucrose into buds of etiolated peas by gibberellic acid and actinomycin D, 52

Inula viscosa (L.) Ait., 83

Involute fern leaves, fossil, 145

Iris sisyrhinchium L., 83

#### Isolat(ed)(es)(ion)

- Fusarium equiseti (Cda.) Sacc. in Israel, 2 et seq.
- seeds, seed species A and B, 153
- selective, of Prymnesium parvum from Lake Tiberias, the use of ethionine for, 42

#### Israel

- Chlorophyllum molybdites (Meyer ex Fr.) Mass. in, 63
- Fusarium equiseti (Cda.) Sacc. in, 1
- Makhtesh Ramon, a Jurassic flora of, 131
- Origanum ramonense Danin sp. n., a new Origanum from, 101
- pollination of Zizyphus spira-christi (L.) Willd. in, 71 Ivanoff effect following leaf excision, 25 et seq.

#### J

Judean Hills, micro-environmental factors and species interrelationships in three batha associations in the foothill region of, 79

#### Jurassic

- fauna, Middle Baiocian and Bathonian, of Makhtesh Ramon, Israel, 154
- flora (florule) from (of)
  - Makhtesh Ramon, 131
  - Sinai (massif of Jebel Maghara, Northern Sinai),

#### K

Kinetin and amino acid incorporation in tobacco leaf discs which had experienced salinity and water stress, 51

#### Kinnereth, see Lake

L

Lactuca cretica Desf., 83

Lagoecia cuminoides L., 83 et seq.

Lake Kinneret (Lake Tiberias)

- flora of, hidden, 54
- Prymnesium parvum from, 42

#### Leaf (ves)

- bean, the effect of chlorine salinity on growth in thickness and area of, 115
- fern, involute, 145
- mesophyll resistance to gas diffusion and flow, measurements by viscous flow and diffusion porometers, 187, 205
- tobacco, kinetin and amino acid incorporation in discs of, 51

#### Lemon, see Citrus limonium

#### Lepiota

- chlorospora Copeland, 64
- esculenta Mass, Sacc. et Syd. 64
- guadelupensis Pat., 64
- molybdites (Meyer ex Fr.) Sacc., 64
- morgani (Peck) Sacc., 63 et seq.
- ochrospora Cooke et Mass., 63 et seq.

#### Leucocoprinus

- molybdites (Meyer ex Fr.) Pat., 63 et seq.
- morgani (Peck) Pat. 63

Light, the effect of, on bud opening in the peach, 52

Lime, see Citrus aurantiifolia

Linaria aegyptiaca (L.) Dum.-Cours., 83 et seq.

Lycopersicum esculentum Mill.

- Fusarium equiseti isolated from, 9 et seq.
- varieties of and hybrid combinations between them, a genetic analysis of a number of quantitative traits in. 159

M

Maize, see Zea mays

Majorana syriaca (L.) Feinbr., 82 et seq.

Makhtesh Ramon, Israel, a Jurassic flora of, 131

Male sterile *Petunia*, alternative cytoplasmic and chromosomal hereditary elements in, 158

Malus sylvestris MiU.,

- catechol oxidase purified from, 38
- slices, prevention of browning by a galactose oxidase inhibitor from Dactylium dendroides peptide, 38

Marattia Swartz, 30

- curvinervis Lorch sp. nov., 30

Marattiaceae, 30

Matoniaceae, 31, 134

Medicago scutellata (L.) Mill., 85

Melanospora sp., 105

Melon, see Cucumis melo

Mesophyll, leaf, resistance to gas diffusion and flow 187, 205

Method, new, for

- extract prediction, based on nitrogen content and hull percentage of barley grains, as a tool in breeding brewing barley, 161
- measuring stomatal diffusion resistance by means of radioactive Argon, 50

Mice, the inheritance of behaviour sequences of, 159

Micro-environmental factors and species interrelationships in three batha associations in the foothill region of the Judean Hills, 79

Micro-organisms preserved under mineral oil for 15 years, observations on some, 105

Microcystis pulverea (Wood) Migula var. incerta (Lemim.)
Crow., 43

#### Micromeria

- graeca (L.) Benth., 83
- Juliana (L.) Benth., 83
- nervosa (Desf.) Benth., 83 et seq.
- serpyllifolia (M.B.) Boiss., 83

Mildew, see Erysiphe graminis

Mineral oil, observations on some fungi and other microorganisms preserved for 15 years under, 105

Molds which develop on seemingly dry surfaces, the biology of, 54

Musa sp., Fusarium equiseti isolated from, 9 et seq.

Mutant(s)

- induced, in peanuts, 160
- sporeless, in Trichoderma viride, 158

Myxosaricina sp. (sp. nov. Rahat and Dor).

N

#### Navicula sp., 43

New

- genera
  - fossil
    - Piazopteris Lorch, 134
  - Sellingia Lorch, 138
- species
  - fossil
    - Aspidites beckeri Lorch, 142
    - Elatocladus ramonensis Lorch, 151
    - Marattia curvinervis Lorch, 30
    - Onychiopsis tenuiloba Lorch, 140
    - Oto-amites ramonensis Lorch, 146
    - Ptilophyllum sp. nov. A. Lorch, 148
    - Sellingia microloba Lorch, 139
    - Williamsonia atractylis Lorch, 149
  - Origanum ramonense Danin, 101
  - undescribed, Myxosarcina sp. (sp. nov. Rahat and Dor), 43

Nicotiana tabacum L. leaf discs which had experienced salinity and water stress, kinetin and amino acid incorporation into, 51 Nigrospora sphaerica (Sacc.) Mason, 105

Nitella sp., 46

Nodularia tenuis G.S. West, 43

Noëa (Noaea) mucronata (Forssk.) Aschers, et Schweinf., 85 et seq.

0

Oil, mineral, observations on some fungi and other micro-organisms preserved for 15 years under, 105

Onion, see Allium cepa

Ononis leiosperma Boiss., 82

Onychiopsis Yokoyoma, 140

- tenuiloba Lorch sp. nov., 140

Oospora f. citri-aurantii

Origanum

- dayi Post, 101
- ramonense Danin sp. nov., a new Origanum from Israel, 101

Ornithogalum narbonense L., 83 et seq.

Oryzopsis

- caerulescens (Desf.) Richt., 84 et seq.
- miliacea (L.) Aschers, et Schweinf., 83 et seq.

Osmundaceae, 30

Osyris alba L., 83 et seq.

Otozamites F. Braun, 146

- feistmanteli Zigno, 146
- of mimetes Harris, 147
- ramonensis Lorch sp. nov., 146

Oxidase

- catechol, in apples, 38
- galactose, from Dactylium dendroides, 38

P

Paecilomyces sp., 105

Pallenis spinosa (L.) Cass., 83 et seq.

Peach, see Persica vulgaris

Pea(s), see Pisum sativum

Peanuts, see Arachis hypogaea

Pearl millet, see Pennisetum glaucum

Penicillium

- digitatum (Pers.) Sacc., 105
- italicum Wehmer, 105
- -- rubrum Stoll, 105
- sp., 105
- variabile Sopp., 105

Pennisetum glaucum R. Br., Fusarium equiseti isolated from, 9 et seq.

Peptide obtained from *Dactylium dendroides*, inhibitory effect of, on galactose oxidase and other coppercontaining enzymes, 38

Persea americana Mill., Fusarium equiseti isolated from and inoculated on, 9 et seq.

Persica vulgaris Mill., the effect of light and temperature on bud opening in, 52

Petunia, male. sterile, alternative cytoplasmic and chromosomal hereditary elements in, 158 Phagnalon rupestre (L.) DC., 83 et seq.

- Phaseolus vulgaris L.
  - leaf resistances to water vapour and gas flow, 187, 205
     roots, chloride fluxes in, in relation to free space, 51
  - var. Brittle Wax, effect of chloride salinity on growth
- of leaves in thickness and area, 115

  Phlebopteris Brongniart emend. Hirmer et Hoerhammer,
  - branner White, 31, 137
  - polypodioides Brongniart, 31

Phlomis

31

- platystegia Post, 102
- viscosa Poir., 84

Pholiota glacioui Berk., 64

Phormidium

- fragile Gom., 43
- tenue Gom., 43
- valderianum Gom., 43

Phytochrome, control by, of <sup>14</sup>C sucrose incorporation into buds of etiolated peas, 52

Phytophthora

- citrophthora (Sm. et Sm.) Leon, 105
- parasitica Dast., 105

Piazopteris, Lorch gen. nov., 134

- branneri (White) Lorch comb. nov. 134, 136

Pimpinella cretica Poir., 84

Pinus

- brutia Ten., 50
- halepensis Mill., 50
- pinea L., 50
- radiata D. Don, 50

Pistacia atlantica Desf., 102

Pistacia lentiscus-Ceratonia siliqua assoc., 82

Pisum sativum L., etiolated, incorporation of <sup>14</sup>C-sucrose into buds of, 52

Poa bulbosa L., 83 et sea.

Podonosma syriaca (Labill.) Boiss., 83 et seg., 102

Podozamites F.W. Braun, 153

- sp., 153

Poinciana regia Raf., Fusarium equiseti isolated from, 13 Pollination of Zizyphus spina-christi (L.) Willd. in Israel, 71 Porometer

- gas diffusion, technique of, and its application to the measurement of leaf mesophyll resistance, 187, 205
- pressure-drop, improved, aspects of stomatal behaviour as observed by means of, 19
- viscous flow, measurements made with, of resistance to gas flow through the leaf, 205

Potato, see Solanum tuberosum

Poterieto-Avenetum, 83 et seg.

Poterietum spinosi

- cretarium, 85 et seq., 113, 114
- mediterraneum, 86
- orientale, 86
- substepposum, 86

#### Poterium

- spinosum L., 82 et seq., 113
  - leading role of, due to soil erosion, 98
- verrucosum Ehrenb. ex Decne., 85

Powdery mildew, see Erysiphe graminis

Prasium majus L., 102

Pressure-drop porometer, improved, aspects of stomatal behaviour as observed by means of, 19

Proterandry in Zizyphus spina-christi (L.) Willd., 73 et seq.

Prymnesium parvum Carter, from Lake Tiberias, the use of
ethionine for selective isolation of, 42

Psilurus incurvus (Gouan) Schinz et Thell., 85

Psoralea bituminosa L., 83

Pteridophyta 30, et seq., 132

Ptilophyllum Morris, 148

- acutifolium Morris, 149
- cf. cutchense Morris, 148
- sp. nov. A Lorch, 148

#### 0

Quantitative traits in tomato varieties, a genetic analysis of, 159

Quercus calliprinos Webb, 96

Quercus calliprinos-Pistacia palaestina assoc., 82

#### R

Ramon, Makhtesh (Israel),

- Jurassic fauna of, 154
- Jurassic flora of, 131

Ranunculus asiaticus L., 83 et seq.

#### Resistance to

- drought, of conifers, 50
- gas and/or water vapour diffusion and flow
  - of leaf mesophyll, and its significance to measurements made with viscous flow and diffusion porometers, 187, 205
  - of stomata, a new method of measuring, 50
- powdery mildew (Frysiphe graminis), inheritance of, in barley varieties, 162

#### Rhamnus

- disperma Ehrenb. ex Boiss., 102
- palaestina Boiss., 96

#### Rhizoctonia

- bataticola (taubh.) Butl., 14
- sp., 14

Ricinus communis L., inheritance of seed coat colour in, 157 Roots

- bean, chloride fluxes in, in relation to free space, 51
- of various plants, Fusarium equiseti isolated from,
   9 et seq.

Ruellia persica Burm., 214

#### Salinity

- and aridity (Book Review), 235
- effect of
  - on growth of bean leaves in thickness and area,
     115
  - on incorporation of kinetin and amino acid into tobacco leaf discs, 51

#### Salvia

- cognata Sam., 84
- graveolens Vahl, 84 et seg.
- hierosolymitana Boiss., 83
- judaica Boiss., 83
- pinnata L., 83

Salvia graveolens-Ballota undulata assoc., 86

Saprophytes, 105

Schizaeaceae, 32, 138

Scrophularia

- nabataeorum Eig, 102
- ranthoglossa Boiss., 83

## Sedum rubrum (L.) Thell., 91

#### Seed(s)

- coat colour in Ricinus communis, inheritance of, 157
- dispersal and germination in Blepharis persica (Burm.)
   Kuntze, 213
- of cotton, groundnut, onion, pearl millet and sorghum, Fusarium equiseti occurring on and isolated from, 11 et seq.
- species (Coniferales)
  - A, 153
  - B (similar to Ginkgo sibirica Heer or to Strobilites milleri Seward et Bancroft), 153

Seedlings of Sinapis alba L., inhibitory effect of actinomycin D on the development of epidermal hairs on, 124

Sellingia Lorch gen. nov., 138

- microloba Lorch sp. nov., 139

Shmueli and Cohen's critique of the hydrature concept, 48

- in support of, 45

Sideritis perfoliata L., 83

Sinai, Northern (massif of Jebel Maghara), a Jurassic florule from,, 29

Sinapis alba L., inhibitory effect of actinomycin D on the development of epidermal hairs on, 124

Soils, in Israel, Fusarium equiseti studied and isolated from different types of, and under different crops, 6 et seq.

Solanum tuberosum L., source of isolate of Fusarium equiseti, 9 et seq.

Sorghum vulgare Pers., Fusarium equiseti isolated from seeds of, 11 et seq.

Space, free, chloride fluxes in bean roots in relation to, 51
Species interrelationships and micro-environmental factors
in three batha associations in the foothill region of
the Judean Hills, 79

Sphenopteris Brongniart, 36, 144

- cf. fittoni Seward, 36, 144

Spore measurements of Fusarium equiseti from

- seeds, 11
- soil, 7
- wilting plants or decaying roots and fruits, 9

Sporeless mutants in Trichoderma viride, 158

Stachypteris Pomel, 32

- spicans Pomel, 32 et seq.

Stenotaphrum secundatum (Walt.) Kuntze, 64

Sterile male *Petunia*, alternative cytoplasmic and chromosomal hereditary elements in, 158

Sternbergia clusiana Ker-Gawl, ex Schult., 102 Stipa

- bromoides (L.) Dörfl., 83 et seq.
- tortilis Desf., 83 et seq.

#### Stomata1

- behaviour, aspects of, 19
- diffusion resistance to, 50, 194 et seq.

Streptomyces sp., 105

Styrax officinalis L., 96

Sucrose (14C-sucrose) incorporation into buds of etiolated peas, 52

Synechococcus elongatus Naeg., 43 Synedra affinis Kütz., 43

#### T

Temperature, the effect of, on bud opening in the peach, 52 Tetraploid and diploid *Hordeum bulbosum* L., 57 *Teucrium* 

- divaricatum Sieb., 83 et seq.
- polium L., 83 et seq.

Thrincia tuberosa (L.) DC., 83

Thuja plicata D. Don, 50

Thymbra spicata L., 83

Tiberias, Lake, see Lake Kinneret

Todites Seward emend. Harris, 30

- williamsonis (Brongn.) Seward, 30
- var. goeppertiana (Muenster apud. Goeppert) Kilpper, 31

Tomato, see Lycopersicum esculentum

Toxicity of Chlorophyllum molybdites (Meyer ex Fr.)

Mass., 67

#### Trichoderma

- glaucum Abbott, koningi Oudemans, lignorum (Tode)
   Harz, antagonistic effects in relation to Fusarium equiseti (Cda.) Sacc., 6
- viride Pers. ex Fr.
  - preserved under mineral oil for 15 years, 105

- sporeless mutants in, 158

#### Trifolium

- alexandrinum L., source of isolate of Fusarium equiseti,
   9 et seq.
- campestre Schreb., 91
- purpureum Loisel., 91
- scabrum L., 91
- stellatum L., 91

Triticum spp., see wheat

Tyrosinase,, from mushroom, inhibitory effect of, on catechol oxidase, 40

#### U

Unclassified ferns, fossil, 36, 140 Urginea maritima (L.) Baker, 84

#### V

Varthemia iphionoides Boiss., 83 et seq.

Varthemietea, 83

Varthemietum iphionoidis desertorum, 53

Viscous flow poremeter, measurements with, of resistance to gas flow through leaf, 205

#### W

#### Water

- stress, effect of, on kinetin and amino acid incorporation into tobacco leaf discs, 51
- vapour diffusion and loss, resistance of leaf to, 187 Watermelon, see Citrullus vulgaris

Wheat, winter (European, vernalized) and spring (Israeli, common), comparative analysis of growth and grain yield components of, 160

Williamsonia Carruthers, 149

- atractylis Lorch sp. nov., 149

#### Y

Yield, comparative analysis of, in spring and winter wheat, 160

#### Z

#### Zea mays L.

- behaviour of stomata studied in, 19
- leaf resistances to water vapour and gas flow in, 187, 205
- source of isolate of Fusarium equiseti, 9, et seq.
- Zizyphus Spina-christi (L.) Willd. in Israel, pollination of, 71



